Chapter 3

Observer Basics

I. Introduction

This chapter presents information on general data collection and data recording. This information applies to data collection/recording on all vessels and gear types observed by the WCGOP.

II. General Data Collection

This section details the building blocks to sampling for the WCGOP.

Data Types

Fisheries managers and scientists ask observer programs to collect an assortment of data, as they are often the only independent participants in a fishery. There are five data types observers can provide to managers and scientists:

1. **Fishing Effort Information** – This data is used by managers to understand where people fish, gear used, and target species.
2. **Catch Information** – This information includes how much was caught, what species made up the catch, and how much of each species was retained and discarded.

3. **Species Composition** – Species composition data is used to estimate relative abundance of each species in a haul. It includes the species specific weights and counts.
    - Species composition information includes reason for discard. Fisheries scientists are interested in the fundamental reason discarding occurs.
4. **Biological Data** – Biological data is used by stock assessors to gauge the age composition of the population, the length to age ratio, the potential spawning population, and the male to female ratio. It includes sex, lengths, weights, and otoliths for individual fish.

5. **Other** – This includes data not necessarily used by fisheries managers but important to ecosystem management. This data type includes information about marine mammals, sea turtles, and seabirds.

Given direction by managers and scientists, the WCGOP designs protocols for data collection and sets priorities.

Duties and Priorities

Use this list as a reminder of data to be collected and to prioritize when all duties cannot be accomplished. Observer duties, in order of priority, are:

1. Record incidental takes of endangered species and marine mammals and collect appropriate biological specimens.
2. Record fishing effort information, including location, time, date, and depth for all hauls/sets.
3. Record interactions by marine mammals, sea turtles, and seabirds with fishing gear.
4. Estimate total catch weight, even for tows with 100% discard.
5. Estimate the weight of retained and discarded catch categories.
6. Sample discarded catch categories to determine species composition.
7. Document reasons for discard for each species and/or catch category.
8. Record weight, length, sex, and take necessary dissections from tagged fish.
9. Maintain the observer logbook.
10. Take biological samples such as sexed lengths, otoliths, stomachs, coral tissue, etc. from discarded individuals.

11. Sample retained catch categories to determine species composition.
12. Record weight, length, and viability of Pacific halibut.
13. Record sightings of marine mammals, sea turtles, and seabirds.

The thirteen duties listed are those typically performed while at-sea. However, the WCGOP may instruct observers to collect additional data.

Catch Categories

Catch categories are species groupings that are based on either marketing categories or naturally occurring associative species complexes. A catch category may be confined to a single species or may include several species.

Catch (market) categories are a unit of categorization used on the west coast. Catch categories are used by processors to aggregate species based on color and/or cohabitation. The result is landings which are documented by catch category, not necessarily species. The WCGOP also uses catch categories when sampling. (See Figure 3-1) There are two reasons why catch categories are used:

1. Matching observer data to landings: Since retained catch is recorded by catch category, the most efficient method of matching observer collected data to landings is by using catch categories.
2. Better estimates of rare species: The WCGOP sampling protocol allows for more precise sampling of those species that are of higher concern. Observer's can focus their effort on overfished species and/or prohibited species to get the best estimates possible while using less precise methods for other species.

For observer sampled species, there are two rules to determine whether species should be placed within the same catch category:

1. Retained and Discarded species are always in separate catch categories.
2. All individuals with the same weight method and sample method are recorded in the same catch category. (Weight and Sample methods explained below)

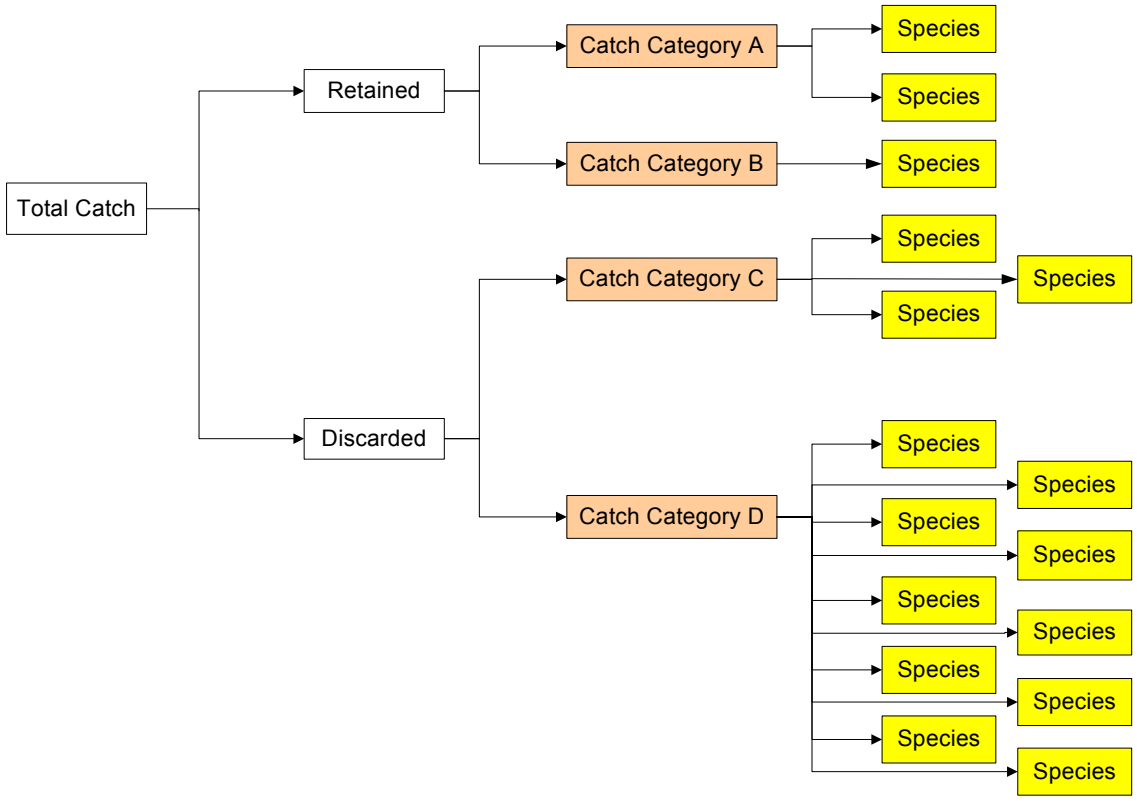


Figure 3-1: Flow of WCGOP Sampling

There are slight differences between gear types in defining catch categories, which will be discussed in chapters 4, 5, and 6.

Naming Catch Categories

A list of catch categories and the corresponding three or four letter PacFin codes can be found in Appendix F: Catch Categories and Target Strategies on page 22**.**

There are two rules when naming catch categories:

1. If the catch category is sampled, the name of the catch category is irrelevant. Sampled catch categories are usually named ZMIS.
2. If the catch category is not sampled, the most descriptive name from the list in Appendix F: Catch Categories and Target Strategies on page 22 should be used.

Weight Methods

Weight methods are used to explain how the weight of the total catch was determined and how the weight of a catch category was determined. Because the WCGOP covers a very diverse fleet, 12 weight methods have been developed to obtain total catch and/or catch category weights.

1 - Actual Weight: When everything within a catch category or a haul is weighed, it is an actual weight. This method can be used for total catch and catch category weights.

2 - Bin/Trawl Alley Volume: If the total catch or a catch category is placed within a measurable unit, then a volume and density can be used to calculate the total weight. This method can be used for total catch and catch category weights.

3 - Basket Weight Determination: All of the individuals within a catch category or haul are placed in observer baskets. Some, but not all, of the baskets are actually weighed (5 baskets out of 10 baskets, for example). An average weight of an observer basket is applied to the total

number of baskets filled. This method can be used for total catch and catch categories.

4 - Visual Estimates: Visual estimates can be based on experience or they can be based on a known. This method is used extensively for catch categories on net vessels. This method can also be used for total catch weight.

5 - OTC – Retained: Subtracting retained estimates from observer total catch weight (OTC) gives the total discard weight. This method is used when a haul is not sampled due to injury or illness on net vessels. This method can be used for discarded catch category weight only.

6 - Other: When the method used to determine the catch category or total catch weight can not be accurately described with one of the other weight methods, this weight method is used. This method is commonly documented when two weight methods are used. The most important thing when using a weight method of OTHER is to thoroughly document how sampling was done. This method can be used for total catch and catch category weights.

7 - Vessel Estimate: The vessel estimates how much is caught by catch category. This method is used for total catch and retained catch categories.

8 - Extrapolation: The total number of individuals of a species is multiplied by an average weight to estimate the catch category weight. In situations where weighing all individuals of a species is impossible but it is possible to count them, this method is used. A variation of this method can also be used to estimate total catch on fixed gear vessels.

9 - Length/Weight Conversion: The lengths of individual Pacific halibut are visually estimated or actually measured. A length-to-weight conversion table is then used to arrive at a weight. This method is used only for Pacific halibut catch categories.

10 - Codend Estimate: The codend is measured and a density is taken to calculate the total weight of fish in the codend. This method is used on net vessels only. This method is used for total catch and catch category weight estimates.

11 - Retained + Discarded: If all of the catch is sampled on a hook or pot vessel, the sum of the catch categories is used for total weight. This method is used for total catch only.

13 - Tally Sample: The weight of catch categories that are tally sampled is the sum of the species weights in the catch category. This method is used for catch categories on hook or pot vessels only.

Sample Methods are also used on Length Frequency and Biological Specimen Forms, see Chapter 7, "Biological Sampling" for more information

Sample Methods

Sample methods are used to explain the method used to take a species composition sample of a catch category.

1 - Whole Haul – When all individuals within a catch category are weighed and counted.

2 - Single Basket – When a single basket species composition sample is taken from a catch category.

3 - Multiple Basket – When more than one basket is taken for a species composition sample of a catch category.

4 - Fixed Gear Sample – When all individuals within a catch category are counted and an independent actual or extrapolated weight is obtained.

5 - Fixed Gear - Fish Ticket Verified - When all individuals in a catch category are counted but not independently weighed. Instead, the fish ticket weight is verified and used.

6 - Fixed Gear - Fish Ticket Unverified - When all individuals in a catch category are counted but not

independently weighed. Instead, the fish ticket weight is NOT verified and used regardless.

The weight methods and sample methods used to sample a haul/set depend on the gear type of the vessel, how much is being caught, and vessel layout. Later chapters deal specifically with using weight and sample methods by gear type. However, understanding the use of catch categories and remembering the two rules in defining catch categories is essential to WCGOP sampling protocol on all vessels.

Reason for Discard

The reason for discarding should be documented for all catch that is not retained. Observers document the **crew's reason** for discarding each item, even if the crew is mistaken regarding a regulation or the marketability of the species in question. **The procedure for determining the reason for discard is to ask the captain or crew why they are not retaining each species or item.** If the reason is obvious, such as for starfish or garbage, it is not necessary to ask the crew. However, if there is more than one possible reason for discard, interview the vessel crew to determine why the catch is not being retained. Avoid making assumptions. There are seven reason for discard codes to choose from:

11 - Incidental/Accidental
12 - Drop-Off
13 – Market
14 – Other
15 – Predation
16 – Regulation
17 – Safety

11 - Incidental/Accidental: Crew or observer inadvertently discards fish that should have been retained.

High-grading - Discarding of marketable fish to maximize profit.

Examples:

- Fish missed during the sort
- Mistakes – crew/observer didn't know captain wanted to keep it
- Quantity – hold or tanks full so the remainder of catch discarded (no apparent **high-grading**, simply no more room for catch)
- Crew effort - fish missed during sort

12 - Drop-Off: This reason is used for **hook and line gear only**. Drop-offs are fish that **would have been retained** had they not fallen off the gear before reaching the vessel.

13 – Market: Discarding that is driven by consumer demand and vessel/processor profitability. This includes high-grading.

Examples:

- Too small - Market pays less for fish under a certain size (a.k.a. High-grading)
- Too big - Market pays less for fish over a certain size (a.k.a. High-grading)
- Fisher doesn't want to fill quota with one species because another species is worth more money. (e.g. discarding gopher rockfish so remaining quota can be used to catch grass rockfish, or other more valuable species, a.k.a. High-grading)
- Price - Fisher doesn't want to use ice or space in hold for fish that have less value than other target species (e.g. arrowtooth discarded that could be kept and sold) (a.k.a. High-grading)
- Fisher wants to keep plant/market happy; wants to deliver best quality to customer to maintain good reputation – market will buy it, but prefers other species/sizes.

- Damaged Fish – squashed, maimed or damaged (fish carcass torn up by other events not by predation)
- Quantity/Amount – market won't buy species in such a small quantity (although species may be retained later if a lot is caught)
- Fish left over from previous haul (on the deck or in the net)
- Time and effort to prepare the species for market too great (examples: skate wings, dressed sharks, etc.)
- Partially sorted catch discarded because it's value is not worth the effort or time to keep sorting
- Market will not buy species if under or over a certain size (this might include weigh-backs)
- Condition - Market won't buy fish of a certain condition (e.g. deep Dover, diseased or mutant fish)
- Freshness/time spent on ice – species won't be retained until near the end of the trip because quality quickly deteriorates
- Market will only buy a certain amount of fish at a time; (e.g. plant says a vessel can bring in 8000 lbs of dover, vessel fishes and catches 20000 lbs of dover in one tow, which is within their trip limit quota, but the plant says they only want 8000 lbs)
- Market does not buy that species
- Market is not buying that species at this time
- Species has no market value when caught with a particular gear type or in that fishery (e.g. smashed urchins)
- Invertebrates with no known marketability
- Miscellaneous objects/garbage/trash
- Mud/Kelp/Wood/Rocks
- Fisher dumped unsorted catch, entire or partial bag of fish, or unsorted catch on deck because it is undesirable (i.e. catch is full of undesired

species such as spiny dog sharks, ratfish, hake, small fish, or some mix of undesired species)

14 – Other: Used for discard reasons which do not fit into any of the other categories. D**ocument the reason for discard thoroughly on the paper forms and in the database.**

15 – Predation: Fish that **would have been retained** if not damaged by predation. This includes predation by marine mammals, destruction by hagfish, sand fleas, and other invasive organisms, and any other animals.

16 – Regulation: Discarding due to quotas, limits, and other restrictions mandated by state and/or federal agencies.

Examples:

- Prohibited Species (P. halibut, salmon, or dungeness crab {regionally})
- Species other than P. halibut, salmon or dungeness crab, which are not allowed for retention, such as state prohibited species (example: giant {black} sea bass)
- Fishing is not presently open for that species
- Fish cannot be retained or targeted by a particular gear type
- Fisher lacks the necessary permit for retention of that species
- Vessel/fisher has met quota for that species
- Size Regulation – Fish cannot be retained if under or over a certain size
- Marine Mammal, seabird, or sea turtle
- Fisher anticipates going over quota (i.e. it is known that the vessel is approaching the quota limit, and to avoid going over quota and risk penalty, the entire catch is discarded)

- Fisher is unsure of regulations – it is not known if vessel is able to retain a species or not, so they discard it to play it safe
- Uncertainty regarding species identification - fish is discarded because the species cannot be determined and or agreed upon by the fisher (e.g. fish caught could be blackgill, darkblotched or cowcod, and fisher is uncertain of correct species identification, so all are discarded)
- Dumped unsorted catch, entire or partial bag of fish, or unsorted catch on deck because catch contains large amount of a species they are not allowed to keep (i.e. contains prohibited species or a species they have reached their quota on)

17 – Safety: Discarding due to concern about vessel and/or crew safety.

Examples:

- Weather
- Mechanical problems
- Crew fatigue
- Size or catch composition makes it dangerous to bring catch on board or to complete sorting.

NOTE: Always record the **primary reason for discard.**

Example: If a longline vessel is not retaining dogfish sharks for market reasons and a dogfish shark drops off the line, it would not be recorded with reason for discard as drop-off. The primary reason for discard is still market.

NOTE: If and **entire bag is dumped**, the primary reason for discard might be market, safety or regulation.

A **Subsample** is a portion of a population. It can be used to make inferences about the population as a whole if collected in a random fashion.

Introduction to Random Sampling Theory

Random sampling is used by observers to ensure unbiased data collection. Observers take **subsamples** from a

population when it is not possible to count, weigh and/or measure every individual within the population. When random sampling is used to subsample, **every member of the population has an equal probability of occurring in the sample.** If every member of the population is equally likely to occur in the sample and sampling is repeated over time, then the collection of samples can be used to draw conclusions about the population.

Advantages of Random Sampling

The use of random sampling eliminates subjectivity and ensures managers, fishers, and other end users that observer data are not biased for or against the fleet.

When random sampling methods are used to collect data, the NOAA Fisheries is justified in using statistical methods for estimating population parameters based upon that data.

Steps in Taking a Random Sample:

1. **Define the population.** The population is the total set of items that we wish to draw inferences about. Populations observers take samples from include:
    - All the individuals in a haul.
    - All the individuals in a Catch Category.
2. **Define a sampling frame.** A sampling frame is a conceptual framework, which divides the population into independent, countable sampling units. There are two general categories of sampling frames: spatial and temporal.
    - **Spatial** – Based on a unit of space or a unit of gear. Examples are:
        - **Space -** Bin, Trawl Alley, or Baskets.
        - **Gear -** Skate, Tub, Pole, Stick, or Pot.
    - **Temporal** – Based on units of time. Examples are:
        - Sample 20 minutes of a 60-minute set.

- Collect a sample at a pre-selected point in time.

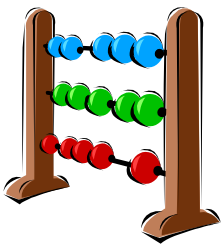
3. **Define your sample units.** It must be possible to collect *all* individuals within a single unit. Be sure not to use sample units that are so large it may be impossible to collect all individuals. Examples:
   - **Spatial** – A trawl alley is divided into six sections. Each of the six sections is a sample unit.
   - **Temporal** – A one-hour sort time is divided into six 10-minute sample units. Each 10-minute segment is a sample unit.
4. **Number all of the sample units in your sampling frame.** If your units are sections of deck or individual baskets, assign a number to each. If your units are time increments, number them consecutively. Gear segments on fixed gear vessels can also be numbered consecutively.
5. **Pick random numbers to choose which units to sample.** Generate random numbers between 1 and your maximum sample unit number (inclusive) to determine which sample unit(s) to select. You will be given a random number table during training, there is one in the WCGOP Field Manual, and another can be found in Appendix I: Random Number Table on page 26. Dice, the second hand of a watch, and numbered pieces of paper are other options for generating random numbers.
6. **Select the sample units corresponding to the random numbers.** This is your sample.
   - **Spatial** - Collect all of the individuals from each randomly selected deck section or gear unit.
   - **Temporal** - Collect all individuals during the time increment.

Random Systematic Sampling

Another way to take a random sample is to set up a random systematic frame. Random systematic sampling can only be used when you know, or have a reasonable estimate of, the **total** number of sample units. Systematic sampling involves taking a sample during every "n^{th}" defined sample unit. For a random systematic frame, randomize the selection of your first sample unit and then take every "n^{th}" unit thereafter. The steps for taking a random systematic sample are:

1. Define the population.
2. Define a sampling frame.
3. Define the sample units and determine the total number of sample units.
4. Number all of the sample units in the sampling frame.
5. Determine how many of the sample units you want in your sample.
6. Divide the total number of sample units by the number of units you want in your sample. This gives you your value for "n".
7. Randomly select a number between 1 and n. This will be the first sample unit in your sample.
8. Sample every n^{th} unit thereafter.

NOTE: If you are sampling **more than** half of the sample units, calculate n based on the number of sample units that will **not** be sampled. Randomly select a number between 1 and n and that will be the first sample unit you skip. Skip every n^{th} unit thereafter.



Example:

There are 100 baskets of fish that need to be sampled.

1. Define population – 100 baskets of fish.
2. Define sampling frame – Spatial Systematic, using baskets.
3. Define sample units – Individual baskets of fish.
4. Number all sample units – Baskets numbered as 1 – 100.
5. Determine how many sample units to sample – Decide to sample 20 baskets.
6. Calculate value of "n": 100/20 = 5.
7. Randomly select a number between 1 and "n" – Use random number table to select 2.
8. Sample baskets **2**, **7**(2+5), **12**(7+5), **18**(12+5)..... **97**(92+5).

Later Chapters include in depth discussions on applying random sampling protocols.

III. Documentation and Recording

Consistent data documentation is imperative to ensuring data quality. This section introduces the data forms and logbook used by observers and gives guidelines for proper data documentation.

Data Forms

Eleven forms are used to record data. Each form functions to collect specific information in a standardized way.

1. **Trip Form** – This form is used to record fishing effort information. This includes latitude, longitude, depth, date, time, fish ticket numbers, landing date, target species and gear used. Observers also record total catch estimates, hook counts (when needed), and gear performance. A trip form is completed for every fishing trip observed.

2. **Catch Form** – Catch category information is recorded on one of two versions of the Catch Form:
    - **Trawl/Prawn Catch Form** is used on vessels using trawl or other net gear. It records the **total weight** of each catch category in the haul.
    - **Fixed Gear Catch Form** is used when sampling on vessels using hook or pot gear. It records the **observer sample weight** of each catch category in the haul.
3. **Species Composition Form** - This form is used to record the composition of the haul by catch category and the reason each species is discarded.
4. **Length Frequency Form** – This form is used to record sexed and unsexed lengths of fish when no other biological data is collected.
5. **Biospecimen Form** – This form is used when biological information on individuals other than simple sexed lengths is taken and any time a dissection is taken.
6. **Trip Discard Form** – This form is used to document any discarded fish that cannot be attributed to a specific haul. For example, a vessel may decide to discard fish that have already been put into the hold. These fish can only be attributed to the trip as a whole, not to a specific haul.
7. **Species Identification Form - Observers are required to fill out a Species Identification form for every new species encountered.** There are four different Species Identification Forms:
    - Rockfish Species Identification Form
    - Flatfish Species Identification Form
    - Skate Species Identification Form
    - Miscellaneous Species Identification Form

    Observers' data quality hinges on the ability of the observers to correctly identify fish to species. Observers are trained in species identification during the initial

training. They are also required to take yearly fish identification tests and complete Species Identification Forms for every new species encountered. These procedures provide the WCGOP evidence of each observer's fish identification competency.

Tip* When filling out species ID forms, it is imperative that observers are still holding the fish. Do not fill out the forms using only the fish books after the fish has been discarded. Be concise and document as much information as possible. If the fish is similar to others, be sure to include distinguishing characteristics.

If a species caught is not listed in the species code list in the manual or in the database, contact the database manager (see Appendix V: Contact Phone Numbers on page 78**)** and it will be added to the species list in the database.

UNIDENTIFED FISH

If there is an individual fish or crab that cannot be identified, fill out a Species Identification Form with as much information as possible. Observers may come across a more identifiable specimen of the same species later, so organize the unidentified fish descriptions with names such as "unidentified black rockfish #1," or "mystery fish #5" as appropriate. Use these same names on the Species Composition Deck Form, so that the data can be changed if the fish is identified later. Always take photographs of the specimen for ID purposes and bring the specimen back to NOAA Fisheries.

REMEMBER: Never guess on the identification of a species.

8. **Marine Mammal, Seabird, and Sea Turtle Sighting and Interaction Form** – This form is used to document sightings of marine mammals, seabirds, and sea turtles as well as interactions that occur between these species and fishing operations.
9. **Sea Turtle Information Form** - This form is used to document specific characteristics of Sea Turtles that have interacted with fishing operations.
10. **Tagged Fish Form** – This form is used to record specific information from tagged fish.

Completing and Organizing Forms

During an average day on a vessel, observers will fill out at least three different forms (usually several of each!). **All data forms should be completed in pencil.** Only Observer Logbooks should be completed in ink.

Tip* Always have the manual near when filling out paperwork. Review the form instructions prior to completing forms and refer to the examples often. This will save time by ensuring the forms are filled out correctly and completely the first time.

Legibility

Observers must record their data in an organized and legible fashion. This decreases the number of calculation, transcription, and data entry errors. If a debriefer cannot interpret some piece of data, the observer is required to thoroughly explain the data during the debriefing interview. This will greatly increase debriefing time. It is often impossible to interpret data that was collected two months prior, leading to some data being lost. To ensure legibility:

- Write carefully in clear, dark writing
- Record the data in an organized manner

- Document formulas and label all calculations

Recording Time

When recording time, use the 24-hour clock (0000-2359) and Pacific Standard Time (PST). Note that no colons are used with the 24-hour clock and should not be recorded on any forms. **Always record time with four numerals.**

Tip* Some digital watches can be set to a 24-hour clock, which can make tracking and recording time easier.

Page Numbering

It is important to use a standardized method of page numbering for the data forms for each trip. All observers must use the same page numbering method for their data forms. This allows debriefers to easily and quickly review data and aids data editors in detecting missing information.

Trip Form: Haul Locations/ Hauls - These forms are numbered sequentially within a trip.

Trip Discard Form - These forms are numbered sequentially within a trip.

Catch Form, Species Composition Form, Length Frequency Form, and Biospecimen Form- These forms are numbered sequentially within a haul.

Marine Mammal/Seabird/Sea Turtle Sighting and Interaction Form and Tagged Fish Forms – These forms are not numbered.

Example: The observed fishing trip lasts one day, and there are two hauls that were sampled. On the way to the processor, the vessel discarded some fish from the hold. The page numbering would be

:

Trip Form	1 of 1	
Trip Discard form	1 of 1	
	Haul 1	**Haul 2**
Catch form-	1 of 5	1 of 3
Species Composition form-	2&3 of 5	2 of 3
Length Frequency form-	4 of 5	none
Biospecimen form-	5 of 5	3 of 3

Data Rounding Rules

When performing a calculation, carry the numbers out full field until the final product is determined. Full field is all the numbers on the calculator. Rounding within a calculation reduces its precision. Do not round any numbers within a calculation!

To round the final product:

- Look only at the first digit to the right of the number being rounded.
    - If X $\geq$ 5 round up
    - If X <5 round down.

Example:

1. Observer counts 49 fish but can only weigh 12 fish.
2. The weight of 12 fish = 54.63 lbs.
3. The calculated average weight = 54.63/12 = 4.5525 lbs.
    - **INCORRECT:** Weight of 49 fish if average weight is rounded to 2 decimal places: 49 fish * 4.55 lbs. = 222.95 lbs.
    - **CORRECT:** Weight of 49 fish if average weight is kept full field: 49 fish * 4.5525 lbs. = 223.0725 lbs. This value would be rounded to 223.07 lbs.

If average weight were rounded, an incorrect value would be recorded on the data form for the weight of the 49 fish.

Observer Logbooks

The Observer Logbook is the field biology notebook used by observers while at-sea. It is used to document sampling methodology, events that effect data collection, and any interference and/or inappropriate behavior. Be professional in logbook documentation, do not use it as a personal journal by venting frustrations or making derogatory remarks.

Observer Logbook Entries

The Logbook is probably the single most important piece of data observers return with because it contains detailed and supportive information about all other data. Have the Logbook present when completing paperwork so notes

regarding data collection and compliance issues can be documented.

Tip* Many observers make notes on their deck forms in order to jog their memory of particular events that happened while they were out on deck. Set aside time each day to write in the Daily Notes section. Remember that events that seem ordinary on this vessel may be unusual to the fleet or fishery, so don't hesitate to write down any information that affects sampling or day-to-day life aboard a vessel.

The Logbook must be kept private while on the vessel, but it is a public document and is turned over to NOAA Fisheries during debriefing. The contents of the Logbook and the observers' name may be released if a Freedom of Information Act (FOIA) request is approved.

The Logbook as Evidence

Logbooks are archived and used as a reference to give more information about the data. They may also be used as evidence if regulatory infractions were noted. If corrections need to be made, draw a single line through the incorrect word(s) and continue with the correct wording.

Do not black out anything, use correction fluid, or tear out pages or parts of pages! Always use INK!

If any part of an original entry is completely obscured, it leaves the reader wondering what was originally documented. This may affect the validity of the Logbook and data.

Logbook Sections Overview

Logbooks are mailed along with completed data at the end of each two month period. The Observer Logbook is made

up of twelve sections, each of which should be completed before mailing. Below is a brief description of each section.

Title Page

The observers' name and the date range (MM/DD/YY) of the trip limit period for which the Logbook was used should be clearly indicated here.

List of Vessels

This section is used to list each vessel embarked on and the dates associated with the vessel. It is very likely that more than one vessel will be observed during each trip limit period. List the vessel names and USCG registration number or the state registration number, as applicable. Write the name of the captain that ran the vessel. If there was more than one skipper during a trip limit period, indicate this and include all names. In the "Inclusive Dates" lines, list the dates on which the vessel embarked as well as the dates the vessel returned to port. **It is only necessary to list each vessel once.**

Calendar

A calendar is provided for observer use.

Vessel Safety

Prior to boarding a vessel for the first time, observers are required to check the vessel for safety equipment required by U. S. Coast Guard regulations. The "Vessel Safety" section lists items that should be inspected before leaving on the first trip on the vessel. The "Vessel Safety Orientation Checklist" pages should be used to document that each item was checked, to make comments on each item, and to document the appropriate dates associated with some items.

A copy of the Vessel Safety Orientation Checklists must be sent to the observer's coordinator prior to

leaving on the first trip aboard a vessel. Logbook pages should never be torn out, rather photocopies should be made.

Tip* It may prove useful to carry pre-addressed, stamped envelopes with you.

Observer Safety Equipment Checklist

Observers are issued safety equipment by the WCGOP. All equipment must be maintained and inspected on a regular basis to ensure that it is in proper working condition. The "Observer Safety Equipment Checklist" must be completed on a monthly basis. Document the actual date of the gear inspection and go through the list with the equipment at hand. It is important to notify an observer coordinator and PSMFC if any of the items do not pass inspection.

Scale Calibration Record

Platform and hand scales should be calibrated **every 5th observed day**. Observers are supplied with a 5lb. weight to but must purchase 3, one gallon sealed bottles of water for scale verification .

To calibrate the Chatillon Platform Scale:

1. Test the scale with two different weights:
    - 5 lbs weight provided by WCGOP
    - Three, one gallon sealed bottles of water purchased from the grocery store

Tip* Buy three sealed one gallon water jugs prior to the first fishing trip. Use the same three gallons of water throughout your contract as a West Coast Observer, since there may be a weight variance between gallons.

2. Use the bars in the appropriate manner.

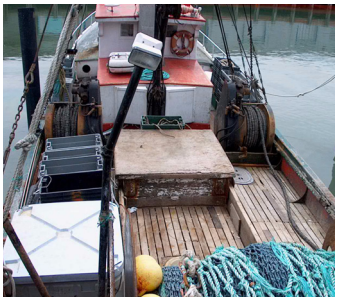
a. Use the 5 lbs bar to get the weight to the nearest 5 lbs.

b. Use the 1 lb bar on the left to get the weight to the nearest pound.

c. Use the tenth bar on the right to get the weight to the tenth of the pound.

d. Record the tested weights on the Scale Calibration Record.

IF THE SCALE READS + or - 5% FROM WHAT IT SHOULD Read , CONTACT A COORDINATOR IMMEDIATELY!



Vessel Diagrams

Vessel diagrams should be completed for each vessel observed. These diagrams help detail the layout of the vessel and help debriefers better understand the observer's sampling conditions while on-board. It is especially important to thoroughly document any vessels and gear types that are not typically observed. Diagrams should be large, detailed, well labeled, and include measurements of the deck, trawl alley, and bins. All calculations and formulas used should be documented in the "Vessel Diagram Calculations" pages.

Description of Observer Total Catch Sampling (OTC)

This section is used to indicate which weight methods were employed to estimate OTC and to detail how each method was applied. This section is used to describe a general sampling frame and any deviations from this frame must be documented in the "Daily Notes" section. Each method will likely be used more than once and on more than one vessel. There are spaces provided to list each vessel on which a particular method was employed.

Description of Catch Category and Species Composition Sampling

This section is similar to the previous one, however it is used to describe weight methods used to estimate catch category weight. Again, these descriptions will describe a general sampling frame. It is very important that random sampling be detailed.

Then, describe the sample method(s) used when taking species composition samples from catch categories with the particular weight method. This must also include random sampling documentation.

Communication Log

The "Communication Log" can be used to aid in tracking communications with vessels, coordinators, other observers, AOI, and any other program related staff. This log is not mandatory but may be helpful for reference. **It is important to note that all communications with** *vessels* **MUST be entered into the database system.** Vessel communications may be listed here as well, but it is not required. Communications listed here may include:

- Calls to WCGOP staff regarding sampling problems
- Calls to other observers regarding data or vessel coverage
- Calls to NMFS enforcement
- Calls to the Coast Guard
- Calls to port biologists and port samplers
- Calls to harbor masters
- Calls to PSMFC state liaisons

Photo Log

The Photo Log is used to document photographs taken by observers with the disposable camera issued by WCGOP. Observers are issued disposable cameras to take photos of

marine mammals and work-related activities (portrait of selected vessel or vessel deck, sampling station, unidentified fish, unusual sampling events etc.). Observer should document each photo taken in the Photo Log soon after the photo is taken. The disposable cameras issued to observers are WCGOP property and will have a barcode label which should be documented in the Photo Log (disposable cameras are not for personal use). All cameras should be returned to the Seattle field office for developing and copies of photos can be issued upon request. Replacement camera can be requested from the Seattle field office at any time.

Daily Notes Section

Use the Daily Notes section to record specific notes on problems that occur while aboard vessels and any illnesses or injuries suffered. Record the circumstances surrounding any violation witnessed. Any problems or challenges encountered while sampling should also be documented here, including times in which the observer was unable to sample. Make an entry for each day, describing the day's events, even if it was considered an "ordinary day." The more self-explanatory the trips are, the better. Logbooks may be referred to months, or even years, after the trips are completed.